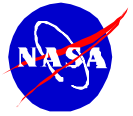




SPACE SHUTTLE PROGRAM
Space Shuttle Program Integration
NASA Johnson Space Center, Houston, Texas



STS-105 Flight Readiness Review

August 1, 2001



SPACE SHUTTLE PROGRAM

Space Shuttle Program Integration

NASA Johnson Space Center, Houston, Texas



Agenda

Presenter

Date 08/01/2001 Page 2

- • **Program Integration - Flight Manager ***
 - **Key Program Considerations**
 - **Payload & System Safety**
 - **Orbital Debris Status ***
 - **Payload In-Flight Anomalies**
 - **Launch Commit Criteria ***
- **USA Program Integration ***
- **Boeing Integration**
 - **Program Anomalies**
 - **Waivers to Vol X**
- **System Integration TMR ***
- **Flight Readiness Statement**

Vanessa Ellerbe

No Issues

No Issues

No Issues

No Issues

No Issues

*** Backup Material Included**



Key Program Considerations

Presenter **Vanessa Ellerbe**

Date **08/01/2001** Page **3**

- **Mission Duration (12+0+2) / Pad Hold (+96 Hrs Margin)**
 - DI 122 supports FD3 rendezvous
 - Unscheduled EVA can be supported within 12 day mission
- **EVA's from Space Shuttle Airlock**
 - Decoupled mission from STS-104 (7A)
- **Middeck Stowage Strategy**
 - Critical crew rotation hardware is in middeck
 - Ascent manifest finalized
- **Return configuration (middeck & MPLM) frozen**
 - Changes to the baseline will be issued via CHIT



Payload and System Safety

| | | |
|-----------|-----------------|--------|
| Presenter | Vanessa Ellerbe | |
| Date | 08/01/2001 | Page 4 |

- **Integrated Experiment Hazards Assessment – Complete**
- **Toxicology Process**
 - **Verification 1: Complete**
 - **Verification 2: Standard open work for late load items**
- **Payload Safety Review Process Is Complete**



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STS-105 Flight Readiness Statement

Presenter

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**THIS CERTIFIES THAT ALL MISSION REQUIREMENTS HAVE BEEN MET AND
SPACE SHUTTLE INTEGRATION IS READY FOR FLIGHT, PENDING COMPLETION
OF THE DEFINED OPEN WORK**

/s/ Don Noah for

**L. D. AUSTIN, JR., MANAGER
SPACE SHUTTLE SYSTEMS INTEGRATION**

/s/ Anne Sweet for

**M. A. BREKKE, MANAGER
SPACE SHUTTLE CUSTOMER AND
FLIGHT INTEGRATION**

/s/ Fred R. Hinson

**F. R. HINSON, ACTING ASSOC. PROG. MGR
PROGRAM INTEGRATION
UNITED SPACE ALLIANCE**

/s/ David O'Brien for

**A. M. LARSEN, MANAGER
PAYLOAD SAFETY**

/s/ Richard N. Richards

**R. N. RICHARDS, PROGRAM DIRECTOR
SHUTTLE & SPACE STATION INTEGRATION
BOEING HUMAN SPACE FLIGHT &
EXPLORATION**

/s/ Randy Segert

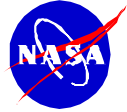
**R. L. SEGERT, MANAGER
SPACE SHUTTLE KSC INTEGRATION**

/s/ Vanessa Ellerbe

**V. S. ELLERBE, FLIGHT MANAGER
SPACE SHUTTLE PROGRAM INTEGRATION**



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STS-105 Flight Readiness Review

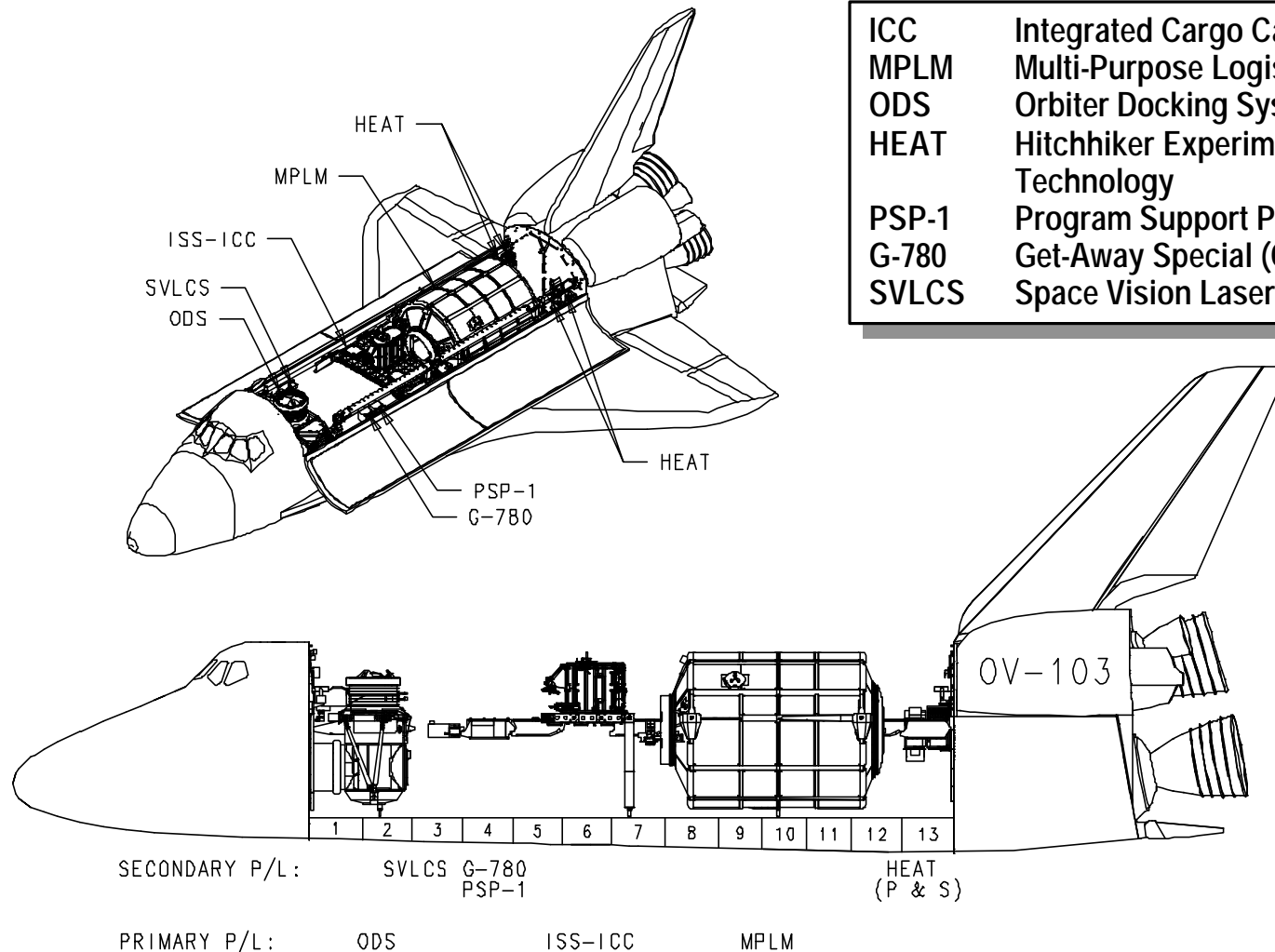
Backup Charts



Payload Bay Configuration

Presenter **Vanessa Ellerbe**

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| | |
|-------|---|
| ICC | Integrated Cargo Carrier |
| MPLM | Multi-Purpose Logistics Module |
| ODS | Orbiter Docking System |
| HEAT | Hitchhiker Experiments Advancing Technology |
| PSP-1 | Program Support Package |
| G-780 | Get-Away Special (GAS) -780 |
| SVLCS | Space Vision Laser Camera System |



STS-105 Orbital Debris Status

Presenter **Vanessa Ellerbe**

Date **08/01/2001** Page **3**

- Orbital Debris / Micrometeoroid Risk Is Acceptable**

| <u>Criteria</u> | <u>Risk</u> | <u>Guideline</u> |
|---------------------------|-------------|------------------|
| Critical Penetration | 1 in 680 | 1 in 200 |
| Radiator Tube Penetration | 1 in 183 | 1 in 61 |
| Window Replacements | 33.1% | N/A |



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**Launch Commit Criteria
Changes for STS-105**

| | | |
|-----------|-----------------|--------|
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- **STS-105 Minimum Equipment List (MEL) Mission Dependent**

USA PROGRAM INTEGRATION FLIGHT PREPARATION PROCESS

Presenter:

Bob White

Organization/Date:

Program Integ/07-01-2001

- **All the Systems and Cargo Integration flight preparation activities have been completed except for planned open work – no issues identified**
- **Completed tasks include:**
 - Verification of compliance with generically certified requirements
 - Mission specific analyses
 - Documentation of vehicle and cargo requirements
 - Reconfiguration / installation of Payload Integration hardware
 - Payload bay clearance assessment

Program Integration Is Ready to Support Flight



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STS-105 NASA System Integration TMR
Flight Readiness

Presenter **Lambert Austin**

Date **08/01/2001** Page **6**

- **Insight, audit and surveillance requirements complete**
- **No out-of-family problems have been identified for impact to safety of flight, or planned flight operations**
- **Approved Program requirements changes have been implemented and verified**
 - **ICD, OMRS, LCC**
 - **Vehicle configuration**
 - **DOSS configuration**
 - **NSTS 07700, Volume X**
 - **Joint requirements**
- **All Joint Shuttle / International Space Station on-orbit Systems Integration analyses have been completed and compatibility verified for STS-105-7A.1 baseline mission**
- **System Integration is ready for flight pending the completion of remaining open work**